815 KAR 20:100. Joints and connections.

RELATES TO: KRS 198B.040(7), (10), 198B.050(2), 318.130, 318.150
STATUTORY AUTHORITY: KRS 198B.040(10), 318.130
NECESSITY, FUNCTION, AND CONFORMITY: KRS 318.130 requires the department, after review by the State Plumbing Code Committee, to promulgate a State Plumbing Code. This administrative regulation establishes the methods that shall be used in joining certain types of piping materials together and denotes the methods that shall be used in securing plumbing fixtures to waste piping outlets. This administrative regulation also establishes the manufacturer's specification number of the material accepted in those installations.

Section 1. Definitions. (1) "ANSI" means the American National Standards Institute and a copy of the ANSI specifications identified in this administrative regulation may be obtained by writing the American National Standards Institute, 1430 Broadway, New York, NY 10018.
(2) "ASTM" means the American Society for Testing Materials and a copy of the ASTM specifications identified in this administrative regulation may be obtained by writing the American Society for Testing Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

Section 2. Water and Airtight Joints. Joints and connections shall be made gas and water tight.

Section 3. Vitrified Pipe Joints, Concrete Pipe Joints, House Sewers - Combined Sewers. (1) Joints in vitrified clay pipe shall be ASTM specification C-425.
(2) Joints in concrete pipe shall be ASTM specifications C-443.
(3) If it is necessary to use piping in other than standard lengths, hot poured joints may be used.
(4) Joints between cast iron pipe and vitrified clay pipe or concrete pipe shall be made either of hot poured bitumastic compound or by a preformed elastomeric ring. The ring shall completely fill the annular space between the cast iron spigot and the vitrified clay or concrete pipe hub.
(5) Joints in pipe and fittings with no more than two (2) pipe sizes between vitrified clay, acrylonitrile-butadiene-styrene, or polyvinyl chloride to cast iron pipe and fittings or the joining of either material may be made with proper fittings by using a dispersion grade polyvinyl chloride ring produced and labeled as either ASTM C-443, C-425, or C-564, or a elastomeric polyvinyl chloride coupling.

Section 4. Caulked Joints. Caulk joints shall be firmly packed with oakum or hemp and shall have at least one (1) inch of pure lead properly caulked. Paint, varnish, or putty shall not be permitted until tests have been performed.

Section 5. (1) Screw joints. Screw joints shall be American Standard screw joints, and all burrs or cuttings shall be removed as required by 815 KAR 20:150.
(2) Mechanical joint couplings for hot and cold water. Mechanical joint couplings for hot and cold water shall not be used above ground unless the couplings are galvanized and the gaskets produced and labeled as ASTM D2000, grade N-R-615 BZ, or other material listed in approved parts or materials list, 815 KAR 20:020.
(3) Mechanical joint couplings for storm water piping. Mechanical joint couplings for storm water piping shall not be used above ground unless the couplings are either black iron or galvanized and the gaskets produced and labeled as ASTM D2000, grade N-R-615 BZ.

(4) Joints in PVC and ABS Schedule 40 or 80 pipe and fittings.

(a) Joints in polyvinyl chloride Schedule 40 or 80 pipe and fittings shall be solvent welded joints and shall be in compliance with ASTM D2665.

(b) Joints in acrylonitrile-butadiene-styrene pipe and fittings shall be solvent welded joints and shall be in compliance with ASTM D2661.

(c) Acrylonitrile-butadiene-styrene and polyvinyl chloride sewer piping produced and labeled as ASTM 3034 shall be joined by solvent cement produced and labeled as ASTM D-2661-90 for acrylonitrile-butadiene-styrene and ASTM D2665 for polyvinyl chloride or with an elastomeric joint in compliance with ASTM D3212.

(5) Copper pipe, brass, and stainless steel tubing joints.

(a) Joints of copper pipe, brass, and stainless steel tubing shall be soldered.

(b) Mechanical couplings.

1. Types K and L copper tubing systems from two (2) inch through six (6) inch and used for water distribution shall be installed using mechanical pipe couplings of a bolted type with a flush seal gasket along with grooved end copper fittings.

2. Couplings shall be of the angle pad design to obtain rigidity.

(6) Expansion. An expansion joint shall be of an approved type and the material shall comply with the type of piping in which it is installed.

(7) Brazed joints. Brazed joints shall be made by cleaning the surfaces to be joined down to the base metal, applying flux approved for the joints and for the filler metal to be used, and making the joint by heating to a temperature sufficient to melt the approved brazing filler metal on contact.

(8) Elastomeric polyvinyl chloride coupling. Elastomeric polyvinyl chloride couplings shall be used for connecting cast iron, vitrified clay, concrete, or plastic pipe, or the combination of these pipe materials for use on house sewers and combination sewers only. This coupling shall be provided with #305 stainless steel clamps.

Section 6. Cast Iron Soil Pipe Joints. (1) Joints in cast iron shall either be caulked, screwed, or made with the use of neoprene gaskets. Neoprene gaskets shall be produced and labeled as ASTM C-564-70.

(2) Cast iron coupling for joining hubless cast iron pipe shall consist of neoprene gasket produced and labeled as ASTM C-564, cast iron clamps produced and labeled as ASTM A-48, and stainless steel bolts and nuts produced and labeled as ANSI B-18.2.1 and ANSI B-18.2.2.

Section 7. Borosilicate Joints. Joints and gaskets used for borosilicate pipe shall be made in a manner approved by the department as established in 815 KAR 20:060.

Section 8. (1) Steel, brass, and copper connections to cast iron pipe. Steel, brass, and copper joints connected to cast iron pipe shall be either screwed or caulked joints. Caulked joints shall be made by the use of a caulking spigot.

(2) PVC and ABS pipe and fitting connections to steel, brass, copper, and cast iron pipe.

(a) Polyvinyl chloride and acrylonitrile-butadiene-styrene pipe and fitting connections to steel, brass, copper, or cast iron pipe shall be either a screwed or caulked joint.

(b) Joints between Schedule 40 PVC or ABS pipe and cast iron pipe may be made by the use of a neoprene gasket produced and labeled as ASTM C-564-70.

(c) Caulk joints shall be made with the use of either a polyvinyl chloride or acrylonitrile-butadiene-styrene or cast iron caulking spigot.

(3) Stainless steel tubing to cast iron pipe or galvanized steel pipe or to copper tubing.

(a) Stainless steel tubing to cast iron pipe shall be made by caulking spigot.

(b) Stainless steel tubing to galvanized steel pipe or copper pipe shall be made by the use of an adaptor.

(4) Joints in acid waste piping.

(a) Joints in vitreous glazed piping shall be made in compliance with manufacturer's recommendations.

(b) Joints in polyethylene and polypropylene piping shall be made by the heat fusion process.

(c) Joints in polypropylene shall be made with a union joint.

(d) Joints in borosilicate pipe shall be a stainless steel mechanical joint.

(e) Joints between silicon iron pipe shall be either caulk joint or stainless steel mechanical joint.

Section 9. Lead Pipe. (1) Joints in lead pipe or between lead pipe and brass or copper pipes, ferrules, soldering nipples, or trap, shall be full-wiped joints with an exposed surface of the solder at each side of the joint of not less than three-quarters (3/4) of an inch.

(2) The minimum thickness of the thickest part of the joint shall be at least as thick as the material being used.

(3) If lead pipe is used for acid waste lines, the pipe may be joined by burning.

Section 10. Lead Pipe to Cast Iron, Steel, or Wrought Iron Pipe. The joints between lead to cast iron, steel, or wrought iron shall be made by means of a caulking ferrule or a soldering nipple.

Section 11. Wall or Floor Flange Joints. Wall or floor flange joints shall be made by using a lead ring or brass flange and shall be properly soldered.

Section 12. Soil Pipe, Iron Pipe, Copper Pipe, Tubular Trap Joints. Joints between soil pipe, iron pipe, copper pipe, and tubular traps shall be made by the use of a heavy red cast brass adaptor. Tubular traps shall be soldered to the adaptor in compliance with manufacturer's recommendations.

Section 13. Slip Joints. (1) Slip joints shall be permitted on the inlet side of the trap.

(2) A single one and one-half (1 1/2) inch slip joint connection with an elastomeric gasket shall be permitted on the outlet side of a one and one-half (1 1/2) inch trap.

Section 14. Unions. Unions shall be ground faced and shall not be concealed or enclosed.

Section 15. Roof Joints. (1) The joint at the roof shall be made watertight by use of copper, lead, or other approved flashing or flashing material.

(2)(a) Except as established in paragraph (b) of this subsection, the approved flashing shall:

1. Not extend less than six (6) inches from the pipe in all directions; and

2. Extend upward twelve (12) or more inches and turn down into the pipe.

(b) Lead flashings for three (3) inch and four (4) inch vent stacks shall have a minimum twelve (12) inch base.

(3) A hub flashing may be used if it is constructed in a manner allowing the flashing to be caulked into a hub above the roof.

Section 16. Increasers and Reducers. If different size pipes or fittings are to be concealed, the proper size increaser or reducer pitched at an angle of forty-five (45) degrees between the

two (2) sizes shall be used. This section shall not apply to nonmetallic installations.

Section 17. Prohibited Joints and Connections. A fitting or connection that has an enlargement chamber, or recess with a ledge shoulder, or reduction of the pipe area in the direction of the flow shall be prohibited.

Section 18. Hangers and Supports. Piping and fixtures shall be adequately supported by hangers or anchors securely attached to the building construction. (Recodified from 401 KAR 1:070, 7-5-78; Am. 5 Ky.R. 161; eff. 10-4-78; 349; eff. 1-3-79; 9 Ky.R. 48; eff. 8-11-82; 10 Ky.R. 1012; eff. 3-31-84; 14 Ky.R. 1133; eff. 1-4-88; 15 Ky.R. 603; 972; eff. 9-28-88; 17 Ky.R. 2893; eff. 5-3-91; 19 Ky.R. 1010; 1394; eff. 12-8-92; 20 Ky.R. 1392; eff. 1-10-94; 27 Ky.R. 2242; 2799; eff. 3-22-2001; TAm eff. 8-9-2007; 35 Ky.R. 2598; 36 Ky.R. 92; eff. 7-29-2009; 38 Ky.R. 2099; eff. 8-31-2012; 42 Ky.R. 130; eff. 11-6-2015.)